

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A polysaccharide sponge characterized by having: (i) an average pore size in the range between about 10  $\mu\text{m}$  to 300  $\mu\text{m}$ ; (ii) an average distance between the pores ~~being the wall thickness of the pores~~ in the range between about 5  $\mu\text{m}$  to about 270  $\mu\text{m}$ ; and (iii) an E-modulus of elasticity being a measure of the rigidity of the sponge in the range of about 50 kPa to about 500 kPa.
2. (Currently Amended) A polysaccharide sponge according to claim 1, wherein said sponge comprises a polyanionic polysaccharide selected from the group ~~comprising the polyanionic saccharides~~ consisting of: alginates, gellan, gellan gum, xanthan, agar, and carrageenan and the polycationic polysaccharide chitosan.
- 3-6. (Cancelled)
7. (Currently Amended) A polysaccharide sponge according to claim 1, wherein said sponge ~~further~~ comprises a cross-linked polysaccharide cross-linking agent ~~selected from the group consisting of the salts of calcium, copper, aluminum, magnesium, strontium, barium, tin, zinc, chromium, organic cations, poly(amino acids), poly(ethyleneimine), poly(vinylamine), poly(allylamine), and polysaccharides~~.
8. (Cancelled)
9. (Currently Amended) A polysaccharide sponge according to claim 7, wherein said ~~cross-linker cross-linking agent~~ is used in the form of a ~~cross-linker cross-linking agent~~ solution having a concentration of ~~cross-linker cross-linking agent~~ sufficient to provide a ~~cross-linker cross-~~

linking agent concentration between about 0.1% to about 0.3% w/v in the final solution from which the sponge is obtained.

10-13. (Cancelled)

14. (Currently Amended) A polysaccharide sponge according to claim 1 for use as a matrix, substrate or scaffold for growing mammalian cells in vitro in vitro.

15-38. (Cancelled)

39. (Currently Amended) An artificial organ equivalent comprising a polysaccharide sponge according to claim 1, wherein the artificial organ is seeded with active cells and representative cells of said of the corresponding natural organ, wherein said cells having been grown on said sponge in vitro in vitro exhibit activity similar to their native activity in vivo, to the stage wherein said cells are fully active and equivalent to the active cells of said organ, said artificial organ being suitable for transplantation or implantation into a patient in need thereof following organ damage, removal or dysfunction.

40. (Currently Amended) An artificial organ equivalent according to claim 39, wherein the artificial organ is being an artificial liver equivalent wherein said cells grown on said sponge are hepatocytes at a stage in which said hepatocytes are active and function in an equivalent manner to hepatocytes in vivo in vivo, and are said artificial liver is suitable for transplantation or implantation into a patient suffering from liver dysfunction, damage or at least partial removal.

41. (New) A polysaccharide sponge according to claim 1, wherein said sponge comprises a polycationic polysaccharide: chitosan.

42. (New) A polysaccharide sponge according to claim 7, wherein said polysaccharide is cross-linked by a cross-linking agent selected from the group consisting of salts of calcium,

copper, aluminum, magnesium, strontium, barium, tin, zinc, chromium, organic cations, poly(amino acids), poly(ethyleneimine), poly(vinylamine), poly(allylamine), and polysaccharides.

43. (New) A polysaccharide sponge according to claim 7, wherein said sponge further comprises a cross-linking agent selected from the group consisting of calcium chloride ( $\text{CaCl}_2$ ), strontium chloride ( $\text{SrCl}_2$ ), and calcium gluconate (Ca-Gl).